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A METHOD FOR CULTIVATING TRANSGENIC PLANTS WITH HIGH VIRUS RESISTANCE AND THE USE THEREOF

Abstract:

The present invention discloses a method for cultivating transgenic plants with high virus resistance and the use thereof, which method comprises the following steps: a). Examining the codons usage frequencies in a host, determining rare codons to modify the codons in a target gene, i.e. replacing certain codons of the target gene with synonymous rare codons used by the host plant; b). Constructing a transformation vector that contains the modified target gene; c). Transforming plant and obtaining the regenerated transgenic plant; and d). Detecting the transformed plant, screening a transgenic plant wherein gene silencing has occurred, thereby obtain the transgenic plants with high virus resistance. The method of the present invention can be used to cultivate high effective and stable virus resistance transgenic plants.

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(54) Title: A METHOD FOR CULTIVATING TRANSGENIC PLANTS WITH HIGH VIRUS RESISTANCE AND THE USE THEREOF

(54) 发明名称: 一种培育高抗病毒转基因植物的方法与应用

(57) Abstract: The present invention discloses a method for cultivating transgenic plants with high virus resistance and the use thereof, which method comprises the following steps: a). Examining the codons usage frequencies in a host, determining rare codons to modify the codons in a target gene, i.e. replacing certain codons of the target gene with synonymous rare codons used by the host plant; b). Constructing a transformation vector that contains the modified target gene; c). Transforming plant and obtaining the regenerated transgenic plant; and d). Detecting the transformed plant, screening a transgenic plant wherein gene silencing has occurred, thereby obtain the transgenic plants with high virus resistance. The method of the present invention can be used to cultivate high effective and stable virus resistance transgenic plants.

(57) 摘要

本发明公开了一种培育高抗病毒转基因植物的方法与应用, 本发明的方法包括以下步骤: a. 查阅宿主密码子的使用频率, 确定稀有密码子, 修饰目的基因中的密码子, 把目的基因中某些密码子突变成宿主植物中的稀有同义密码子; b. 构建含有密码子修饰目的基因的用于植物转化的载体; c. 转化植物, 获得再生转基因植株; d. 检测转化植株, 筛选目的基因发生基因沉默的转基因植株, 获得高抗病毒转基因植株。利用本发明的方法可以培育高效稳定的抗病毒转基因植物。

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